



George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

ED27-EMA-SOP-001

Rev. A

July 25, 2001

STANDARD OPERATING PROCEDURE

ED27 / MODAL AND CONTROL
DYNAMICS TEAM

CONTROL OF QUALITY RECORDS IN THE MODAL TEST LAB

CHECK THE MASTER LIST—
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

ED27 / Modal and Control Dynamics Team		
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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		7/29/99	Document replaces "ED73-EMA-SOP-001" due to reorganization. Appropriate organization codes and document numbers were updated. Test Preparation Sheet (TPS) is defined in Section 3.1 and the use of a TPS is added to Section 4.3. Also, the frequency of modal test workstation backups is changed in Section 4.2.
Revision	A	7/25/01	Revise location for storage of quality records due to relocation and contingency planning

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1. INTRODUCTION

- 1.1 Scope This procedure defines the system used to control quality records in the Modal Test Lab.
- 1.2 Purpose This procedure defines the system to fulfill the requirements of ED27-OWI-M&V-002 "Quality Records Control".
- 1.3 Applicability This procedure applies to quality records controlled by the Modal Test Lab.

2. REFERENCE DOCUMENTS

- ED27-OWI-M&V-002 Quality Records Control
- ED27-OWI-M&V-003 Test Report Control

3. DEFINITIONS

- 3.1 Test and Checkout Procedure (TCP) A document that defines the sequence of events to perform a specific series of tests. In some instances, a Test Preparation Sheet (TPS) may be used instead of a TCP.
- 3.2 Test Setup Sheet (TSS) A document that describes specific test parameters for individual tests within a test series.

4. INSTRUCTIONS

- 4.1 Modal Test Data Backup The magnetic media (disk, tape, CD) used to back up the raw and processed modal test data will be kept for a minimum of 5 years from the test date. Back ups will be generated at the conclusion of each test. Each backup will be labeled with the TCP number and the test date and stored in the vault in Room 111 at the West End of MSFC Building 4619.
- 4.2 Modal Workstation Backup A full backup of the workstations used to acquire, analyze, and store modal data will be done at least quarterly. Incremental backups may be done periodically as determined by the test engineer. Backup dates will be identified with the workstation host name and the date. At least 3 cycles of backup tapes will be retained and stored in the vault in Room 111 at the West End of MSFC Building 4619.

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- 4.3 Modal Test Report The test report generated after completion of modal analysis of test data will be stored as described in ED27-OWI-M&V-003 "Test Report Control". The Test Setup Sheets and the "AS RUN RECORD COPY" Test and Checkout Procedure or Test Preparation Sheet are included in this report.
- 4.4 Test Equipment List A list of all calibrated items will be kept current and will be stored in Room 154 of MSFC Building 4619. This list shall contain an ECN, name, manufacturer, model number, serial number, category, and calibration contact. The equipment list may be maintained in a combination of hard copies and/or computer records. Those records stored on computer will be backed up whenever changes are made. Backup media will be stored in Room 154. Backups will be retained until the next backup.
- 4.5 Photographs and Video Photographic and video records, as required for test documentation, taken during each test program will be stored with the test report as described in ED27-OWI-M&V-003 "Test Report Control". These photographs and video will be kept for a minimum of 5 years. Photographs and video taken purely for informational or public relations purposes are not considered to be quality records.
- 4.6 Calibration Records Calibration records will be maintained by a combination of hard copy and computer records in Room 154 of MSFC Building 4619. Entries for Class IV and V items will be retained for the last 4 calibration cycles. Information stored on computer will be backed up whenever changes are made. Backup media will also be stored in Room 154. Backup media will be retained until the next backup.
- 4.7 Software Validation Certification Documentation of software validation will be retained in Room 154. This certification may consist of documentation of in-house software verification or documentation from a commercial software vendor which sufficiently demonstrates to the test engineer a thorough quality management program with acceptable checkout and control of software. This certification will be kept as long as the software is in use.
- 4.8 Disposition Reports Disposition reports will be stored in Room 154 of MSFC Building 4619. Disposition reports will be retained for a minimum of one year. Information kept on computer will be backed up whenever changes are

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made. Back up media will also be stored in Room 154.
Backups will be retained until the next backup.

4.9 Measurement Setup Files At the start of each test, the measurement setup files identifying instrumentation for large channel count modal tests (40 or more accelerometers) will be copied to magnetic media. These files contain the set, channel, serial number, calibration value, measurement point number, and accelerometer orientation for all accelerometers. Any changes to the setup files during the test will be documented in a change log. Both the floppy disk and the change log will be filed with the report.

5. QUALITY RECORDS

5.1 Modal Test Data Backup

5.2 Modal Workstation Backup

5.3 Modal Test Report

5.4 Test Equipment List

5.5 Photographs and Video

5.6 Calibration Records

5.7 Software Validation Certification

5.8 Disposition Reports

5.9 Measurement Setup Files

6. QUALITY RECORDS

Quality records may be excessed or reused, as appropriate, after their retention time has expired.